

## Testing web surveys

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# TESTING WEB SURVEYS

*HELENA BÄCKSTRÖM & BIRGIT HENNINGSSON*

## 1. Introduction

Web surveys are still a new technique at Statistics Sweden, though surveys conducted on the web are becoming more frequently used. At Statistics Sweden people work with web surveys at different departments and in different ways. This causes a variety of layouts. We recommend forming some sort of guidelines about layout and other features considering web questionnaires.

## 2. Tests we have done

We have been testing some different web questionnaires, in different ways. We would like to tell you about three of these tests and what methods we have been using throughout the testing.

### 2.1 Statistical Databases of Sweden

#### Background

Statistics Denmark has during a couple of years carried out a web survey to users of the Statistical databases in Denmark. From the results a lot of relevant conclusions have been drawn and proposals to measures have appeared. Statistics Sweden got interested in doing a similar survey.

The Measurement Lab was involved at a very early stage. We discussed what questions to ask and constructed the questions. We also evaluated the web questionnaire with a suitable method and on an adequate number of “test people”.

### Design

The thought is that the layout of the questionnaire should be in accordance with the web site of Statistics Sweden, and with its databases as well.

- The same colours are used here as on Statistics Sweden's web site and in the databases. A squared background behind the question is also a well-known characteristic.
- The head of the page is equipped with the logotype of Statistics Sweden, the reason simply to let the respondent know who is behind the survey.
- There is only one question at the time on the screen. This makes it very easy to get an overview of the question.
- All text is written in the font "Arial".
- There are five different colours in use. In the head of the page there are two shades of yellow. The name of the survey is written in red above the question. The question is in bold, instructions in italic and the response alternatives in normal font.
- At the bottom of each page there are two buttons, "Previous" and "Next". It is easier for the eye to notice and click on the biggest button. We changed the Swedish word for "Next" to "Next question" to let the buttons be of the same size.

## 2.2 Database with Information about our Surveys

### Background

Statistics Sweden is going to build up a special database with information about all our surveys. A web questionnaire is sent out to all the product managers for them to fill out data about the surveys they are responsible for. One of the goals with the questionnaire is to be able to follow the development of electronic collection at Statistics Sweden. The product managers are meant to contribute to the development work by answering the web questionnaire.

### Design

- The questionnaire is confusing. There is no order in the questionnaire.
- The questionnaire consists of 13 different sections, each of them with different numbers of questions. You can go between the different sections by choosing "section" in the head, in a "pop-up" menu.
- You have to scroll to see all the questions in one section.
- The same data will be filled out on several different places. They have not taken advantage of the possibilities on the web.
- There are neither skip instructions nor any questions whether the demanded data are available for the survey or not. All people have to read all the text to be able to make a decision whether it is data they should fill out or not.

## 2.3 The harvest and the autumn sowing

### Background

The questionnaire that is to be sent out to farmers consists of two tables with questions about the harvest and the autumn sowing during 2003. Questions are asked about how big the area is for a lot of different crops, how big the harvest was, how many percent water the harvest contained and how many crops that can be sowed in the autumn.

### Design

- The questionnaire is a little more than one page. You have to scroll.
- At the bottom of the page all the buttons are collected like “Save”, “Print the instructions”, “Send” and “Log out”.
- You find the instructions at each question where they are needed. The instructions are provided to the respondent in form of Pop-up buttons, which facilitate the task for the respondent. There is no need for them to search through the instructions.
- Calculations are made automatically.
- Some figures are already printed from previous year. To visualize that the respondent can not change these figures, they are written in a light grey colour.
- One problem is that you can not read the “Comments” if you use a screen with 800X600 pixels.

## 3. Testing Methods

### Statistical Databases

The method we used was a combination of “**think-aloud**” interviews and **observations**. From registers of users of the databases, a suitable sample was made. As a total, five interviews were made and they took about half an hour each. The tests and the interviews were tape-recorded.

At first the interviewer introduced the test and the interview, i.e. she explained the background and the purpose of the evaluation, and told the test person how the test would be carried out.

The test person filled out the questionnaire on the screen while the interviewer was sitting nearby observing the process. In the meantime the test person “thought aloud”, i.e. he/she told the interviewer what he/she was thinking of when reading the questions and how he/she discussed to get an answer that finally was filled out.

Once the test person had filled out the questionnaire a couple of more questions were asked, according to a topic guide. The questions were about the length of the questionnaire, the time spent, the wording and contents of the questions, layout and so on.

### Database with Information about our Surveys

The Measurement Lab was not involved when this questionnaire was made. The difficulties showed up when the product managers filled out the questionnaire. All the respondents are working at Statistics Sweden. Afterwards it was decided that we should find out about the problems.

We did nine **in-depth interviews** with persons from different departments. We went through the questionnaire page by page. During the interview the respondents told us about the problems and thoughts they had when they filled out the questionnaire and also during the test. We wanted to find out about problems with definitions, vagueness and misunderstandings as well as problems caused by the design of the web questionnaire.

### The harvest and autumn sowing

We did not do any test. We only tried to fill out the answers on the screen. The client had made the questionnaire. We **worked together with the programmer** and discussed different solutions to find out the best result. The work was very interesting and we learned a lot from one another.

## 4. Our Experiences

Most of our own experiences come from questionnaires made for enterprises and municipalities. The international experiences we have seen are mostly from questionnaires to individuals. We have just started to send out web surveys to individuals. Still very few will answer on the web if they can choose a paper version.

As you have heard we have used **think-aloud** tests together with **observations**. We have also made **in-depth interviews** to get opinions and more understanding of how the respondents think while they are filling out the questionnaire. The test methods we have used so far seem to have given us a lot of information.

We would like to see more cooperation between the producer and the programmer. Conducting surveys on the web is still a new technique and there are many different ways to handle it. Discuss with one another and exchange experiences. Use the possibilities that the web offers you!

There are a lot of good things with the web. For the producer - the data entry is ready. But also for the respondent; sums and calculations can be done automatically. Another example is the possibility to click on a word and you will see its definition. You can also get help for editing but do not overuse this option, since it might irritate the respondents and make them not bother after a while.

Some other things to remember:

- You need a clear structure since the overview is difficult on the web.
- It must be easy to save and to print. If the respondent leaves the questionnaire – will he/she be able to automatically return to the question where he/she left off?
- Put the buttons “Save” and “Print” together – it makes them easier to notice.
- Not too much to read. You need as simple questions as possible.
- You have to be careful with colours. Some colours are already associated with certain characteristics.
- Scroll as seldom as possible. Scrolling down too far stops you from seeing the headlines.
- The respondents expect it to go very quickly to fill out the questionnaire.
- Do not overrate the competence of the respondent. The test will show you.
- Which is the best font? Ventura?

## 5. Checklist

We have an increasing amount of jobs about web surveys. The clients also want us to tell them about our experiences. And they want good advice. Therefore we started to make a checklist draft which serves as something to look at and to discuss with the client when we start a new job. See the Appendix.

## Appendix

### Checklist: Designing Electronic Questionnaires

#### From paper to electronic questionnaires

When changing over from paper questionnaire to an electronic one, not only is the questionnaire “translated” to the new technique but its possibilities are also used. This creates new and more options at the same time as it makes greater demands. Electronic questionnaires can be more or less intelligent. The following help might be built in:

- conditions for editing
- possibilities to correct errors found and to register other changes
- routines for summing up totals and to make other calculations
- automatically performed skip instructions
- information texts shown on the screen when clicking on the given question

**To think about beforehand**



1. Consider secrecy, passwords, coding. Report to information security officer.
2. The design has to take into consideration both how computers work and how respondents expect questionnaires to be filled out.
3. Take into account that the use of mixed modes probably will be necessary, e.g. complementing the web questionnaire with a paper questionnaire.
4. It is the respondent who should review his own data. The checks should focus on commonly occurring errors and be designed to facilitate the respondent's understanding of the question and give knowledge of what the answer stands for. All checks that are implemented in the questionnaire should be carefully tested by respondents.
5. Work method: the programmers and the producers have to collaborate. Write a specification of demands.
6. Follow SCB:s general directions for publications on the Web.
7. Write briefly! It is not preferred to read long texts on the computer screen.
8. Prepare to test the questionnaire in the environment of the respondents.

**Technical environment**

1. What similarities to ordinary software are desirable?
  - how to save
  - how to move on to the next page
  - how to deliver, send
  - how to print
2. It should be easy to **SAVE**.

It should be possible for the respondent to fill some parts out and then resume where they left off, i.e. without having to start from the beginning of the survey again. Respondents should be informed about this at the start of the questionnaire.
3. Make it easy to PRINT
  - a. An empty form– Respondents often need information before they answer
  - b. A filled out form
4. Leave instructions at each question where it is needed by providing pop-up help buttons. Make sure the instructions are sufficient especially where input format is crucial. E.g.: “enter your date of birth using: MM/DD/YYYY format”.
5. Let the respondent scroll as seldom as possible
6. Use graphic symbols to tell respondents how much they have left of the questionnaire.

### Questionnaire design

- The design has to be respondent friendly.
- Introduce with a **welcome page**, which motivates the respondent to start answering the questions.
- Start with a question fully visible on the first screen page. Make the question easy to understand and easy to answer.
- Introduce each question in a conventional way, to make it look like a question in a paper questionnaire.
- Take advantages of the **possibilities on the web**. Sometimes it can be better to adjust the paper questionnaire according to the web.
- Combine words, graphic language and figures to **support and guide** the respondent through the wanted answering order.
  - **verbally** - words
  - **graphically** - shapes, colours, figures etc.
  - **numerically** - numbers
- The respondent should be permitted to make the following actions when filling out the questionnaire:
  - **Proceed to the next question,**
  - **Return to the previous question and**
  - **Quit.**
- The respondent should always be able to proceed to the next question without being forced to answer every question on the way.
- Use a **logical question order** and take advantage of the opportunity of creating automatic skips.
- Try to make enough space for all answer alternatives on one screen page. If not – make double rows with clear instructions about how to navigate.
- **Radio buttons**  are appropriate for a relatively short list, with mutually exclusive items. When one item in a list is selected, all the others are unselected.
- **Check boxes**  are suitable for multiple responses, “check-all-that-apply” items.



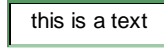
### Drop boxes



*Pros:* Drop boxes (drop-down menus) save space on screen; they are therefore suitable for long option lists, which allow type-ahead lookup (e.g. state, country).

*Cons:* Drop boxes imply more work for the respondent (at least three mouse clicks). The answer alternatives are often not visible until clicked on.

### Text Field and Text Area



Be careful with open questions. Size and shape of the text field/text area should be adjusted for the length of the required answer. Provide sufficient space and always let the respondents know how much text they can fit in. Avoid horizontal scrolling! Use the text area for open-ended responses, general comments etc.

### Size and colour

Use “Sans Serif” (e.g. Verdana, Arial, MS Sans serif) in a large font. Stick to one and the same colour. Never use more than four different colours on one screen. Be consistent!

Some colours are already globally associated with a certain characteristic:

<u>Underlined text</u>	clickable link
Blue	clickable link
Red	emergency messages or critical icons (red is associated with errors or warnings)

### Consistency

Place the information texts at the same position on every screen and use the same format for the same information.

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